

IS ECONOMIC PROGRESS MAKING CHILDREN SICK?

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Background and Aims: In recent years Slovenia has seen a growth in hospitalization rates of children under age of 14 due to respiratory problems. Since 2002 when 6 per 1000 children were hospitalized due to five most common respiratory diseases, a number has surged to almost 8 in 2008. In this paper we investigate the relationship between hospitalization and air pollution, which is based on yearly exhausts from industrial plants, while we are aware that "the quality of exposure measurement is often the most critical determinant of the validity of an environmental epidemiological study" (Rothman et. Al, 2008, pp.600)

Methods: To estimate the effects of industrial plants on children's hospitalization rates, while accounting for socio-economic status, we use a SARAR model specification of a Cliff and Ord-type (Kelejian and Prucha, 1998), which simultaneously allows for spatial lag in the dependent variable as well as lag in disturbances. We further allow for processes where the innovations in the disturbance process are assumed to be heteroskedastic of unknown form.

Results: Our results indicate that socio-economic status is important with respect to explaining the children's hospitalization rates. We find that average wage rate has little or no effect, while the social inequality, measured as a standard deviation of wages, is accompanied with increased prevalence. Education on the other hand has a negative effect on hospitalization. We also find some evidence that hospitalization rates are higher where reported exhausts for industrial plants are higher.

Conclusion: Further investigation on correlation between socio economic status and illnesses caused by means of industrial progress and their impact on environmental pollution are recommended in order to enable us to better predict the effects of development on health care expenditures. A special stress should be given to chronic diseases that can be a consequence of environmental pollution as those are the ones that take over the role of main drivers of health care expenditures.

References:

Rothman J.R, Greenland S., and Lash T.L. Modern Epidemiology 3rd edition. Lippincott, Williams, & Wilkins 2008; pp.600
Kelejian, H.H. and Prucha, I.R. A Generalized Spatial Two Stage Least Square Procedure for Estimating a Spatial Autoregressive Model with Autoregressive Disturbances; *Journal of Real Estate Finance and Economics* 1998; 17:99-121.